eBook

trustgrid

Remotely Manage On-Premises Applications

Overview

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Remotely Manage On-Premises Applications

In the past decade the public cloud has emerged as the most efficient and scalable computing platform ever designed. However, the cloud computing model does not extend to on-premises environments where a lack of standards regarding infrastructure, security, and networking limits the ability to centrally deploy and manage edge applications.

The Trustgrid platform extends cloud-like controls to on-premises applications without requiring any change to the application. This allows applications and systems running at the edge to become remotely managed from the cloud.

Contents

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01 | The Challenges:
On-Premises Environments Are Messy.

New approaches are required for these remote environments to become part of modern computing ecosystems.

To meet the growing market demands of centralized management and support, SaaS vendors serving customers with on-premises systems must figure out a way to deliver software on-prem, while being able to maintain it from the cloud.

To do this, these on-premises applications must have persistent connectivity to services living in the cloud while also enabling control of on-premises components like APIs, ETL functions, and other containerized services.

Initially, a SaaS vendor may be under the impression that tunneling a VPN to a firewall or connecting via SSH to a host on-premises will provide the required connectivity needed to manage remote applications. However, these custom configured arrangements make multiple assumptions about things such as on-premises staffing, security policies, and troubleshooting that are rarely (if ever) as perfect as they need to be.

When on-premises applications rely on cloud services, a legacy approach to connectivity will typically require:

- A Change To Customers' Firewall Configurations
- Handling of Overlapping Subnets Between the Two Environments
- Availability of On-site Network Engineers for Deployment and Maintenance

Trustgrid has been designed as an alternative to complex, custom configured VPN solutions and solves the vast array of the issues encountered by application providers as they attempt to connect, deliver, and scale their cloud to on-premises application architectures.

SaaS application providers typically deploy Trustgrid when they want to add new cloud-enabled services to applications that will continue to run on-premises or seek to gain operational efficiencies in managing their fleet of remote appliances.

02 | From the Cloud to the Edge:
The Trustgrid platform provides turnkey, scalable connectivity between cloud and on-premises environments.

Delivered as a technology-driven managed service, Trustgrid is built for the needs of SaaS product development and DevOps teams so they can remove themselves from building and managing networks, and focus on delivering software to their customers' environments.

Running on either a dedicated Trustgrid appliance or added directly to the application's on-premises existing hardware appliance, Trustgrid nodes give an application provider global visibility and control over their remotely deployed applications.

Trustgrid can be used to remotely push new application versions to remote appliances (as VMs or containers), monitor application performance at the edge, and even remotely support application components at the edge, throughout their lifecycle.

It gives application providers everything they need to build, connect, and support applications living in any environment (owned or 3rd party) with similar levels of control and automation experienced in the cloud.

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03 | The Trustgrid Management Portal

At the center of the platform is the Trustgrid Cloud Management Portal.

The portal is the interface for all Trustgrid products (Connect, EdgeCompute, and Remote Access) and sits at the heart of the administrative user experience.

DevOps or application support teams use the portal to centrally configure the network, monitor network and application health, and provide remote troubleshooting and support for on-premises applications.

Trustgrid
Connect

API GATEWAYS

Cloud
Management
Portal

Trustgrid
Remote Access

Trustgrid
EdgeCompute
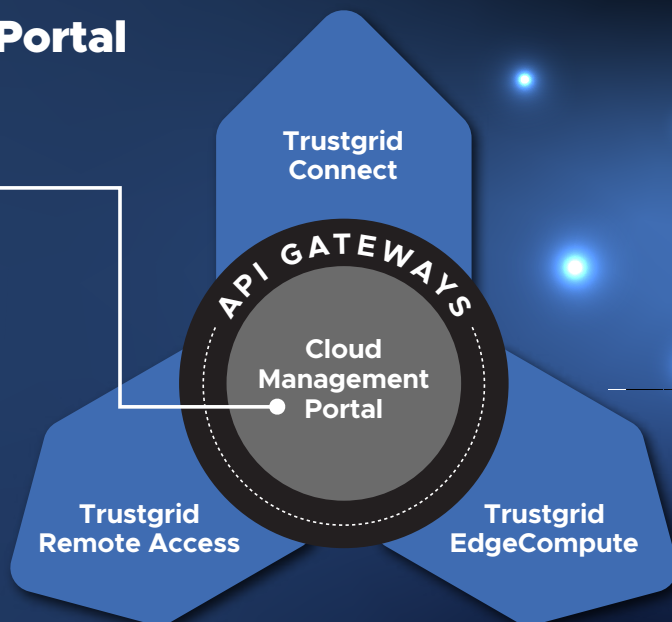
04 | Modernizing On-Premises Applications

Delivering modern software solutions requires automation and optimization in every layer in the stack.

When integration with customer environments is needed, cloud application architectures are complicated by the variety of systems and a lack of control over 3rd party infrastructure.

In addition to the scaling challenges of managing 100s or 1000s of unique deployments, security and compliance gaps can be introduced as each new cloud-to-on-prem network is built using different tools with custom configurations.

Tackling these challenges with Trustgrid gives application providers a plug-and-play, consistent way to build cloud-to-edge architectures.

When a SaaS provider needs to bridge the cloud components of their application with a customer's on-premise system or data center components, **Trustgrid Connect provides that connectivity by placing nodes in the cloud and at the edge.**

These software-defined network nodes build encrypted tunnels between the application and a customer's environment. Through a shared responsibility model, **Trustgrid engineers help application admins configure, manage, and monitor the network from the Trustgrid management portal.**

From the management portal, administrators and support teams have visibility over the entire network and control the ability to push updates, troubleshoot, and remediate connected applications or network issues remotely.

This can be especially helpful when a customer lacks the resources to investigate application and network problems onsite. For mission critical connections, redundant nodes with automated disaster recovery ensure 99.99% network uptime.
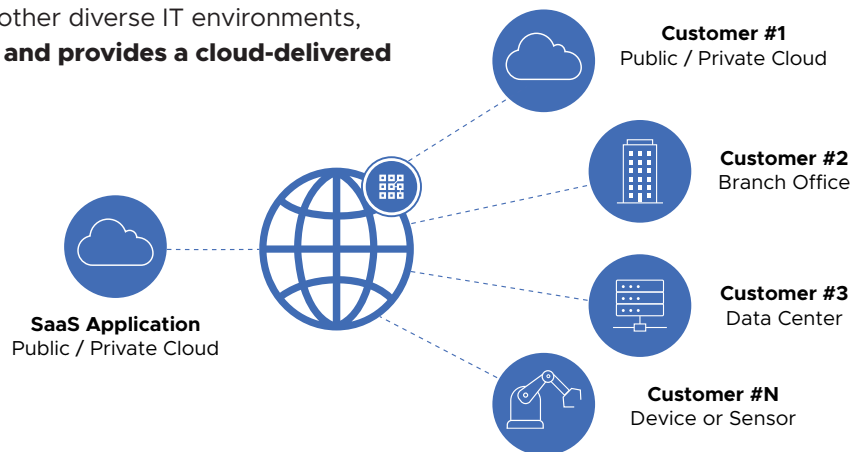
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05 | Connecting to Remote Applications

Trustgrid Connect is the platform's cloud networking product. Delivering next-gen SD-WAN capabilities, it is designed to meet the challenges of SaaS application providers who require connectivity to customer clouds or data centers at scale.

Trustgrid Connect is critical to bridging the complexity that arises when connecting environments from two different organizations and builds a multi-tenant network fabric between a SaaS application and any number of edge application environments.

Specifically designed for SaaS applications that want to manage applications running in customer, partner, or other diverse IT environments, **Trustgrid Connect is an alternative to VPNs and provides a cloud-delivered WAN, optimized for ease of management.**

With Trustgrid Connect, application providers get all the tools to build both mesh and hub-and-spoke network architectures between cloud and on-premises environments.

SaaS Application
Public / Private Cloud

Customer #1
Public / Private Cloud

Customer #2
Branch Office

Customer #3
Data Center

Customer #N
Device or Sensor

Once Trustgrid is used to build cloud-to-customer networks, DevOps teams gain global visibility and control over their remotely deployed applications and support teams now have a single pane of glass to troubleshoot any deployment. This multi-tenant connectivity allows for an application provider to support their on-premises application deployments remotely - in the same way they would a public cloud service.
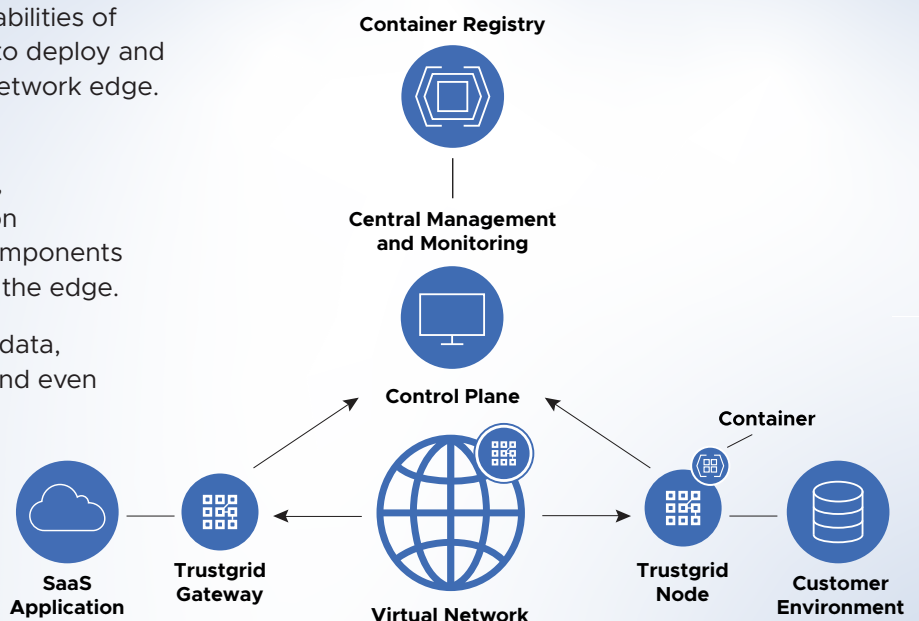
06 | Running Applications On-Premises

Trustgrid Connect provides everything that a SaaS provider needs to scale their network connection to customer environments. But Trustgrid Connect is just one of the products in the larger Trustgrid Platform.

Trustgrid EdgeCompute adds to the capabilities of Trustgrid Connect to provide a platform to deploy and support application components at the network edge.

Integrating networking features with a containerized application platform, Trustgrid EdgeCompute allows application providers to run additional application components such as containers and custom scripts at the edge.

This allows applications to process edge data, introduce remote survivability features, and even build APIs in a customer's environment.
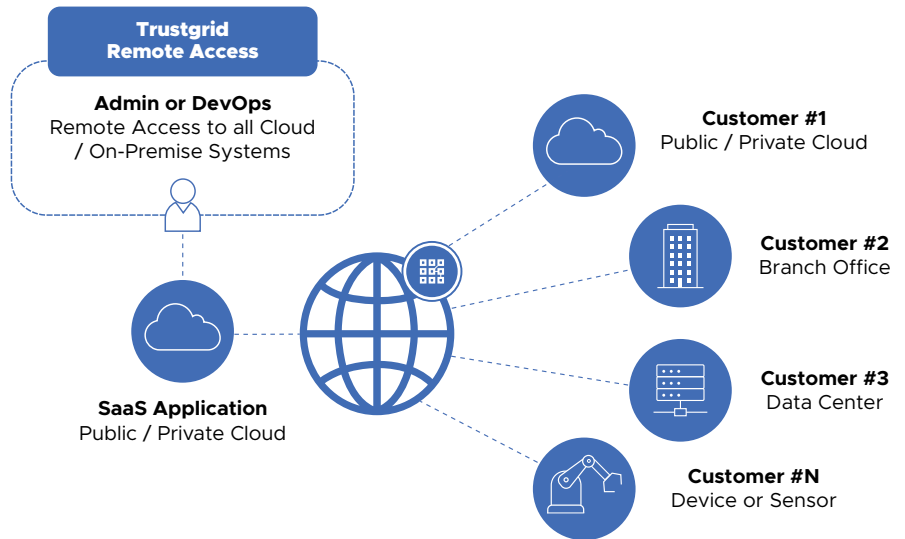
Container Registry

Central Management and Monitoring

Control Plane

Container

SaaS Application

Trustgrid Gateway

Virtual Network

Trustgrid Node

Customer Environment

07 | Secure Remote Support for On-Premises Applications

Trustgrid Remote Access provides the zero trust network access (ZTNA) used to support all of these networking and remote application elements.

Trustgrid Remote Access is designed for SaaS support teams to have secure, granular access to on-premise applications for patching, troubleshooting, and support.

Legacy VPNs or remote desktop support tools introduce risk due to the lack of granular access management controls needed for sensitive application components and can be easily exploited via stolen credentials and session hijacking.

Trustgrid Remote Access supports applications running in any cloud and on-premise environment by using an agentless web interface to grant access across a range of applications and devices.

Trustgrid Remote Access

Admin or DevOps
Remote Access to all Cloud / On-Premise Systems

SaaS Application
Public / Private Cloud

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Public / Private Cloud

Customer #2
Branch Office

Customer #3
Data Center

Customer #N
Device or Sensor

Least privilege access policies can be custom configured within the tool utilizing existing roles, groups and permissions from 3rd party identity providers. Open source agents such as OpenVPN or Wireguard are also supported.

Each of the products in the Trustgrid Platform work seamlessly together to build, manage, and support cloud-to-edge architectures from a common management portal.

Trustgrid allows application providers to focus on what they do best – **delivering software.**
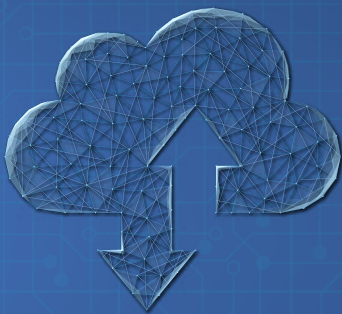
By combining **advanced networking capabilities, edge computing features and turnkey managed services**, Trustgrid allows all applications, appliances, and services to be **managed from the cloud, no matter where they reside**.

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